



FMC – 301

Polysulfide Rubber Compound

PRODUCT OVERVIEW

FMC-301 is a thixotropic polysulfide rubber mold compound with high tear strength that cures overnight with negligible shrinkage. Brushable molds made of FMC-301 are very durable and will perform in production. The mix ratio is 100 parts of Part A to 8 parts of Part B by weight. FMC-301 cures to a Shore hardness of 31A.

FMC-301 is ideal for vertical surface applications that require capturing intricate detail from a variety of model surfaces. It provides a practical and economical method of producing large molds, especially those having wide variation in mold depth. Unlike polyurethanes, FMC-301 is not sensitive to moisture and can be poured directly over wet plaster or water/sulfur based clays. Common applications include molds for foundry and pattern work, sculpture (lost wax process), casting various gypsum products and waxes.

TECHNICAL OVERVIEW

Key Values: ~*Mixing Ratio:* 100 A: 8 B by weight ~*Shore A Hardness:* 31
~*Pot Life:* 50 minutes ~*Cure Time/Demold:* 16 hours at room temperature. ~*Color:* Black

Properties	Viscosity	G/CC	Cu. In./Lb.
Mixed A+B	Paste	1.35	20.5
Ultimate Tensile Strength	157 psi	Elongation At Break	700%
100 % Modulus	29 psi	Shrinkage	negligible

Preparing Your Model

Applying A Release Agent

Some Materials Must Be Sealed . . . To prevent adhesion between the rubber and model surface, models made of porous materials (gypsum plasters, concrete, wood, stone, etc.) must be sealed prior to applying a release agent. *Superseal* (available from TCS, Inc) will seal porous surfaces like gypsum or wood and have minimal effect on surface detail and texture. Sulfur-free and non-water based clays require release agent only. Thermoplastics (polystyrene) must also be sealed with shellac or PVA. **In all cases**, the sealing agent should be applied and allowed to completely dry prior to applying a release agent.

Applying A Release Agent . . . A release agent is necessary to facilitate demolding when casting into or over most surfaces. Use a release agent made specifically for mold making (such as Universal Mold Release - available from TCS, Inc). A liberal coat of release agent should be applied onto all surfaces that will contact the rubber.

~**IMPORTANT:** To ensure thorough coverage, lightly brush the release agent with a soft brush over all surfaces of the model. Follow with a light mist coating and let the release agent dry for 30 minutes. **If there is any question** about the effectiveness of a sealer/release agent combination, a small scale test should be made on an identical surface for trial.

Need Technical Help? Call (212)367-7561

Measuring & Mixing . . .

YOU MUST STIR PARTS A AND B THOROUGHLY BEFORE YOU BEGIN Materials should be stored and used in a warm environment (72° F / 23° C). Mixing should be done in a well ventilated area. Wearing latex gloves and long sleeve garments will help minimize skin contact. After mixing Part B, pour the desired amount (as measured by weight) into a clean container. Add the appropriate amount of Part A by weight.

After dispensing required amount of Parts A and B into mixing container, **mix thoroughly for 3 minutes** making sure that you **scrape the sides and bottom of the mixing container several times**. Although this product is formulated to minimize air bubbles in your cured mold, vacuum degassing will further reduce entrapped air. Pour as soon as possible after mixing to obtain lowest viscosity and best flow.

Pouring

Curing

Mold Performance

For best results, pour your mixture in a single spot at the lowest point of the containment field. Let the rubber seek its level up and over the model. **A uniform flow will help minimize entrapped air.** The liquid rubber should level off at least 1/2" (1.3 cm) over the highest point of the model surface.

Curing . . . Allow the mold to cure overnight (at least 16 hours) at room temperature (77 F/25 C) before demolding. The mold will cure faster at higher temperatures and will cure slower at lower temperatures. Do not cure rubber where temperature is less than 65 F /18 C.

Using The Mold . . . A release agent should be applied to the mold before each casting. The type of release agent to use depends on the material being cast. The proper release agent for **wax, liquid rubber or thermosetting materials** (Smooth-On liquid plastics) is a spray release made specifically for mold making (Universal Mold Release). Be sure to follow directions for proper application of release agent. Prior to casting **gypsum plasters**, sponge the mold with a soap solution for better plaster flow and easy release. **Especially for releasing concrete**, use a water based release concentrate called "**IN & OUT**". For releasing **Polyester**, a barrier coat followed by a release agent is required. Permaseal SMC (barrier coat) followed by Permaseal 600 release agent will yield multiple castings and prevent rapid deterioration of the mold. Permaseal products are available from TCS, Inc.

Mold Performance & Storage - Fully cured molds made are tough, durable and will perform if properly used and stored. The physical life of the mold depends on how you use it (materials cast, frequency, etc.). Casting abrasive materials such as concrete will eventually erode mold detail, while casting non-abrasive materials (wax) will not affect mold detail. Before storing, the mold should be cleaned with a soap solution and wiped fully dry. Two part (or more) molds should be assembled. Molds should be stored on a level surface in a cool, dry environment. Do not stack molds, expose them to moisture or UV light.

SAFETY FIRST!

The Material Safety Data Sheet (MSDS) for this or any other product should be read prior to use and is available at www.SCULPT.com. All Smooth-On products are safe to use if directions are read and followed carefully.

Be careful. Contact of Parts A or B with skin and eyes may cause severe irritation. Flush eyes with water for 15 minutes and seek immediate medical attention. Remove from skin with soap and water. Do not heat this product or its components. Refer to MSDS for complete health and safety data

Important: The information contained in this bulletin is considered accurate. However, no warranty is expressed or implied regarding the accuracy of the data, the results to be obtained from the use thereof, or that any such use will not infringe upon a patent. User shall determine the suitability of the product for the intended application and assume all risk and liability whatsoever in connection therewith.

Call Us Anytime With Questions About Your Application.

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